

## Fuzzy logic control of exothermic batch process

**ABSTRACT**

Thermal runaway of exothermic reaction, especially with batch chemical plants, is a critical issue because it can affect production quantity and quality, causes profit loss, and in worst case can threaten the safety of workers and lead to plant accident. The conventional PID controller which is usually used in many industries needs to be operated under supervision in order to perform the temperature control well. In this work, Mamdani type fuzzy logic controller is proposed to track an optimal reference temperature profile. Both process model and proposed controller are simulated using MATLAB. The results show the designed fuzzy logic controller is well-performed in set point tracking and able to cope with the simulated disturbance condition.